

Work Order ID 162485

Tuesday, June 06, 2017 4:57:34 PM

162485

Page 1

Item ID: D119-646-311

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Ground Handling

Start Date: 6/6/2017 Start Qty: 4.00

4

Cust Item ID:

Required Date: 6/8/2017 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

PA DAS
21
9-89

Date:

20170607

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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IIN-D119-646

D

JUN 22 2017

DAS
6
9-89

100

Document Control

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-311
CHG0014 DAS
27
9-89

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

4 SEP 05 2017
DAS
28
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120

QC4- 100% Inspect kits for completeness

0.03

120

QC

Memo

0.00

Quality Control

4 DAS
27
9-89

SEP 07 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																							
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																							
Root Cause		FAULT CATEGORY																																																													
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :	
Misidentified ☐	Past Due ☐																																																														

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162485

Page 2

Item ID: D119-646-311 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Ground Handling
Start Date: 6/6/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 6/8/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: <u>ST636A</u> Memo Identify and pack for shipping as per PPP D119-646-311 Location: _____ PPP rev: _____	0.00 0.00				<u>4</u>	DAS 28 9-89	SEP 08 2017	
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.40					DAS 21 9-89	SEP 07 2017	

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SEP 07 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

Picklist Print

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Work Order ID: 162485

162485

Parent Item: D119-646-311

D119-646-311

Parent Item Name: Ground Handling

Start Date: 6/6/2017

Required Date: 6/8/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP RevA: New issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3886-041		Manufactured	No			110	Each	15.0000	2	8			

D3886-041

Lug Assembly

**

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Location

Loc Qty

Loc Code

ST228

1

B163736 x3

151001

1

ST528

8

157602

8

ST532A

6

156995

6

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D2652

Manufactured

No

110

Each

342.0000

8

32

D2652

Bushing

**

20X165710

Location

Loc Qty

Loc Code

FG

44

B164472 13

31985

44

ST009

298

161518

298

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DAS
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AN3C46A

Purchased

No

110

Each

41.0000

4

16

AN3C46A

Bolt

**

x16

Location

Loc Qty

Loc Code

FG

10

M138009

122843

10

ST346

31

m136055

13

m136181

18

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Shop Packet Print

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Picklist Print

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Work Order ID: 162485

162485

Parent Item: D119-646-311

D119-646-311

Parent Item Name: Ground Handling

Start Date: 6/6/2017

Required Date: 6/8/2017

Start Qty: 4.00

Required Qty: 4.00

NAS1149C0332R

Purchased

No

110

Each

4,145.000

4

16

NAS1149C0332R

WASHER

**

DAS
27
9-89

Location

Loc Qty

Loc Code

FP001

1438

m137381

1438

GA

514

m133284

22

m136444

492

ST260a

2000

m135408

0

m136741

0

m137597

2000

ST266

193

m135908

184

m136741

9

MS21043-3

Purchased

No

110

Each

747.0000

4

16

MS21043-3

Nut

**

DAS
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9-89

Location

Loc Qty

Loc Code

FG

80

103691

80

FP001

119

m136182

119

GA

88

m136182

88

OVER007

300

m137587

300

ST302

160

m137459

160

SEP 05 2017

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SEP 05 2017

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6.0 PARTS LIST

6.1 Standard Skidtubes

Item	Qty -011	Qty -012	Qty -111	Qty -112	Qty -211	Qty -212	Qty -041	Qty -141	Qty -151	Qty -241	Qty -251	Qty -311	Part Number	Description
	X												D119-646-011	STANDARD SKIDTUBE INSTALLATION WITH WEARPADS, LH
		X											D119-646-012	STANDARD SKIDTUBE INSTALLATION WITH WEARPADS, RH
			X										D119-646-111	STANDARD SKIDTUBE INSTALLATION WITH FULL LENGTH WEARPLATES & WEARPADS, LH
				X									D119-646-112	STANDARD SKIDTUBE INSTALLATION WITH FULL LENGTH WEARPLATES & WEARPADS, RH
					X								D119-646-211	STANDARD SKIDTUBE INSTALLATION WITH TRAINING WEARPLATES, LH
						X							D119-646-212	STANDARD SKIDTUBE INSTALLATION WITH TRAINING WEARPLATES, RH
	1	1					X						D119-646-041	REPLACEMENT STANDARD SKIDTUBE WITH WEARPADS
			1	1				X					D119-646-141	REPLACEMENT STANDARD SKIDTUBE WITH FULL LENGTH WEARPLATES & WEARPADS
									X				D119-646-151	WEARPLATE KIT STANDARD SKIDTUBE
					1	1				X			D119-646-241	REPLACEMENT STANDARD SKIDTUBE WITH TRAINING WEARPLATES
											X		D119-646-251	TRAINING WEARPLATES STANDARD SKIDTUBE
	1	1	1	1	1	1						X	D119-646-311	GROUND HANDLING KIT
1							1						D3887-041	STANDARD SKIDTUBE ASSY. WITH WEARPAD
20								1					D3887-043	STANDARD SKIDTUBE ASSY. WITH WEARPLATE & WEARPAD
26									1				D3847-043	FWD WEARPLATE ASSY
27									1				D3847-045	CENTER WEARPLATE ASSY
28									1				D3847-047	AFT WEARPLATE ASSY
29									5				D3847-1	WEARPAD
30									1				D3847-11	WEARPAD
31									30				AN3C5A	BOLT
32									30				AN960C10L	WASHER (OR NAS1149C0332R)
40										1			D3887-045	STANDARD SKIDTUBE ASSY. TRAINING WEARPLATE
44											1		D3849-041	FWD TRAINING WEARPLATE ASSY
45											1		D3849-043	AFT TRAINING WEARPLATE ASSY
51											16		D3904-1	WASHER
52											8		AN3C46A	BOLT
53											8		MS21043-3	NUT
60	2		2		2								D3883-1	SADDLE, OUTSIDE, LH
61		2		2		2							D3883-2	SADDLE, OUTSIDE, RH
62	2		2		2								D3884-1	SADDLE, INSIDE, LH
63		2		2		2							D3884-2	SADDLE, INSIDE, RH
64	16	16	16	16	16	16							D2652	BUSHING
65	8	8	8	8	8	8							AN3C50A	BOLT
66	12	12	12	12	12	12							AN4C6A	BOLT
67	8	8	8	8	8	8							MS21250-05008	BOLT
68	8	8	8	8	8	8							AN960C10L	WASHER (OR NAS1149C0332R)
69	24	24	24	24	24	24							AN960C416L	WASHER (OR NAS1149C0432R)
70	8	8	8	8	8	8							AN960C516L	WASHER (OR NAS1149C0532R)

REFERENCE ONLY

DART AEROSPACE USA, INC.

IIN-D119-646

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Item	Qty -011	Qty -012	Qty -111	Qty -112	Qty -211	Qty -212	Qty -041	Qty -141	Qty -151	Qty -241	Qty -251	Qty -311	Part Number	Description
71	8	8	8	8	8	8							MS21043-3	NUT
72	12	12	12	12	12	12							MS21043-4	NUT
73	12	12	12	12	12	12							D2712	SET SCREW
74	16	16	16	16	16	16							D3672-7	WASHER
75	24	24	24	24	24	24							D3672-3	WASHER
76	8	8	8	8	8	8							D3672-7	WASHER
80	1	1	1	1	1	1							D3407-041	TOW RING
81	2	2	2	2	2	2							D3417-5	WASHER
82	1	1	1	1	1	1							D3456-1	WASHER
83	1	1	1	1	1	1							MS21043-4	NUT
90												2	D3886-041	LUG ASSEMBLY
91												8	D2652	BUSHING
92												4	AN3C46A	BOLT
93												4	AN960C10L	WASHER (OR NAS1149C0332R)
94												4	MS21043-3	NUT
*120													MS21250-05048	BOLT
*121													NAS1149C0532R	WASHER
*122													D3672-7	WASHER
*123													MS21043-5	NUT

* SUPPLIED WITH DART CROSSTUBES

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Revision: **D**
Date: 17.02.21

Work Order ID 162485

Tuesday, June 06, 2017 4:57:34 PM

162485

Page 1

Item ID: D119-646-311

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Ground Handling

Start Date: 6/6/2017 Start Qty: 4.00

4

Cust Item ID:

Required Date: 6/8/2017 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: *JA*

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
IIN-D119-646	D								
100	Document Control	0.00							
100									
DC	Memo	0.00							
Doc. Control -USB or Paperwork	Photocopy bluefile & type labels per PPP D119-646-311 CHG001								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120	QC4- 100% Inspect kits for completeness	0.03							
120									
QC	Memo	0.00							
Quality Control									

JUN 27 2017

DAS
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9-89

JUN 26 2017

United States of America
Department of Transportation - Federal Aviation Administration
Supplemental Type Certificate

Number SR02024SE

This certificate, issued to

Dart Aerospace USA, Inc.
190 S. Danebo Ave.
Eugene, OR 97402

certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 27 of the Federal Aviation Regulations.

Original Product—Type Certificate Number:

H7EU

Make:

Agusta S.p.A.

Model:

A119 and AW119 MKII

Description of the Type Design Change: Fabrication of DART D119-646 Replacement Skidtube Installation in accordance with DART Aerospace USA, Inc. Master Document List (MDL), Document Number MDL-D119-646, Revision B, dated June 30, 2009, or later Federal Aviation Administration (FAA) approved revision; and installation of this system in accordance with Installation Instructions, DART Aerospace USA, Inc. Document Number IIN-D119-646, Revision B, dated June 29, 2009, or later FAA-approved revision. This modification must be maintained in accordance with Instructions for Continued Airworthiness (ICA), DART Aerospace USA, Inc. Document Number ICA-D119-646, Revision 1, issued June 29, 2009, or later FAA-accepted revision.

Limitations and Conditions: Approval of this change in type design applies to the above model rotorcraft only. This approval should not be extended to other rotorcraft of this model on which previously approved modifications are incorporated, unless it is determined by the installer that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that rotorcraft. A copy of this certificate and the ICA must be maintained as part of the permanent records for the modified rotorcraft.

If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: May 11, 2009

Date reissued: October 28, 2015

Date of issuance: August 11, 2009

Date amended:



By direction of the Administrator

(Signature)

(Title)
Manager, Seattle Aircraft Certification Office

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.